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THE PATENTS, DESIGNS, AND TRADE MARKS ACT, 1921-1922.

COMPLETE SPECIFICATION.

"IMPROVEMENTS IN BLOCKS FOR BUILDING AND OTHER PURPOSES."

I, ALBERT VICTOR HUNTER, British Subject, of No. 3 Malabar Road, Coogee, near Sydney, New South Wales, Australia, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:-

This invention relates to blocks used in various branches of constructional work as for example, in the building of houses, dams, bridges, runways, breakwaters, flooring and road paving, and for many other purposes, such as toys, models and the like.

The invention has been devised to provide blocks for the above-mentioned purposes which can be quickly and inexpensively assembled into walls and the like, and which have a very wide range of application. The main features of the blocks according to the invention is that they can be laid with or without adhesive and cannot be pulled apart laterally or vertically after assembly. The blocks are cast or moulded either of solid or hollow form and are made of any suitable material, according to the particular purpose for which they are to be employed, including concrete, clay, metal, wood, plastic and glass. The blocks may also be formed as a hollow shell of metal, wood, plastic, glass or any other desirable material formed, in some cases, of multi-piece stampings or mouldings joined together, and filled with any suitable substance.

The blocks, in their most widely used form are of rectangular or square shape, but may be of any other shape suitable to the particular construction in which they are used, and they are engaged together by one or a series of spigots either separate from or integrally formed therewith and preferably obliquely set thereto, which fit into one or more complementary engaging slots formed in the blocks.

The engaging slots are inwardly enlarged and the spigots, of complementary formation, slidably fit therein in a similar manner to that of a dove-tail slide, to prevent lateral separation. In the main construction block, a spigot extends more or less centrally from the lower side, or from both the upper and the lower sides of the block. An engaging slot is located at each end of the block to receive portion of the spigot of a block fitted thereon or thereunder, the other portion of the said

spigot fitting into an engaging slot in the end of an adjacent block. For corner constructions and branching-off walls, engaging slots are provided in the sides of the blocks and in some cases separate spigots are provided for locking the branching-off blocks to the main construction. Half blocks having one or more engaging slots and no spigots are provided for wall or other constructional extremities. The blocks are also provided with means for weathering in the form of tongues and grooves and drainage ducts.

The blocks may be in long lengths or in short form and in a variety of sizes and shapings, and in some cases circular, as for forming silos, chimneys, drains and the like.

The invention will be further described with reference to the accompanying drawings wherein:-

Fig. 1 is a side elevation of a block according to this invention;

Fig. 2 is a side elevation of a modified form of the block;

Fig. 3 is a perspective view of a block similar to that shown in Fig. 2 and incorporating weathering means;

Fig. 4 is a side elevation showing several blocks in assembled formation;

Fig. 5 is an enlarged side elevation of a cored block in a preferred form;

Fig. 6 is a plan view of same;

Fig. 7 is an end elevation of same;

Fig. 8 is a perspective view of a half block;

Fig. 9 is a plan view of a block providing for branching-off;

Fig. 10 is a fragmentary plan view of complementary blocks for assembly adjacent to, above or below the block shown in Fig. 9; and

Fig. 11 is a perspective view of a block for corner construction.

In Fig. 1 the block 12 is shown with a spigot 13 obliquely disposed in the longitudinal vertical plane, integrally formed with the block, and downwardly depending from the lower face thereof. The spigot is of a length conforming substantially to the depth of the block and extends from a position medially thereof. In Figs. 2 and 3 the block 12 is provided with an upper spigot 14 and a lower spigot 15, the upper spigot 14, for preference being of a length equal to one-third of the depth of the block, the lower spigot 15 thereby having a maximum limitation in length of two-thirds of the depth of the block.

For preference the spigots and the engaging slots are of a configuration consisting of two rod like members connected by a web as shown in Fig. 3, but are not necessarily confined to such configuration, the principle factor determining the configuration being lateral retention of adjacent engaged blocks. The blocks shown in Figs. 1, 2 and 3 each have an engaging slot 16 at each end, disposed in the same plane as the spigots and set at the same angle. The engaging slots are formed to the configuration of one of the rod like portions of the spigots and of part of the web thereof, the two slots of each block, if placed adjacent, conforming to the whole of one spigot.

The engaging slots are slightly larger than the spigots to allow for slidable fitting of the spigots therein. The angle of the spigot to the block is not limited to any particular degree, but for general purposes a suitable angle has been found to be  $2\frac{1}{2}^{\circ}$ .

The block shown in Fig. 3 is provided with weathering means in the form of semi-circular cross-section tongues 17 and 18 along the top face and down one end, semi-circular cross-section grooves 19 and 20 of slightly larger size than the tongues, along the lower face and down the other end, drain depressions 21 in the upper face between the spigot and the

engaging slots, and drainage ducts 22 extending from the upper face to the lower face.

A section of a wall formed of double spigoted blocks is illustrated in Fig. 4 which shows the interlocking of three blocks, and such interlocking may be repeated to build a wall of any desired size. As shown in Fig. 4 the upper spigot 14 is so disposed on the upper face of the block as to form a continuation of the lower spigot 15 of the block vertically above. The double spigoted block provides for firmer construction of a wall or the like, in that each block is provided with a six point suspension, by virtue of the interlocking therewith of six adjacent blocks, two above, two below, and one at each end.

A cored block is illustrated in Figs. 5, 6 and 7. In this block the cored hole 23 is of a height approximately half that of the block which has an upper spigot 24 and a lower spigot 25, the upper spigot 24 being of a height corresponding to the distance between the lower face of the block 12 and the bottom of the cored hole 23, and the lower spigot 25 being of a height corresponding to the distance between the upper face of the block 12 and the top of the cored hole 23. Drain depressions 21 are provided and have drainage ducts 26 leading therefrom to the top of the cored hole 23. Further drainage ducts 27 lead from the bottom of the cored hole 23 to the lower face of the block 12. The cored hole 23 extends substantially parallel from each end of the block 12 to a position inwardly of the drainage ducts to provide seepage levels about the orifices of the ducts. The centre portion of the cored hole 23 slightly tapers to a narrower centre portion 28.

A half block 29 is shown in Fig. 8 and provides for flush finishing of a wall or the like at an extremity or around a doorway or window opening. This block is provided with two engaging slots and no spigots.

The blocks, according to this invention obviate the need for conventional plugs for securing a framing thereto. For this purpose, one or a series of spigots or dowels of wood and of complementary formation to the slots are inserted in the engaging slots at the exposed ends of the blocks, and the framing for a door or window or the like is secured thereto. If desired such slots may be formed parallel to the block end. In the case of archways or constructional extremities which are to remain exposed, blocks and half blocks may be provided with the exposed end engaging slot omitted.

Figs. 9 and 10 illustrate the disposition of engaging slots in blocks which provide for wall branching. A slot 30 is formed medially of one side of the block 12 and parallel thereto. Vertically disposed weathering grooves 31 are provided on either side of the slot. An adjacent branching block, either a half or a full block, has an engaging slot formed in and parallel to one end, in this case in the end of the block provided with weathering tongues. Locking is effected by a separately formed spigot. Complementary blocks adapted to be fitted above or below the block shown in Fig. 9, are illustrated in Fig. 10. An engaging slot which aligns the engaging slot 30 is formed of two half portions 32 and 33 respectively located in adjacent ends of opposed blocks.

Blocks are provided with the engaging slot 30 and the half portions 32 and 33 formed in the sides of the blocks opposite to that shown in Figs. 9 and 10, for branching-off in the opposite direction, as the angular disposition of the spigots integrally formed with the block does not permit an individual block to be reversed.

For corner formations an engaging slot 16 is located in the block 12 near to one end of one of the side faces as shown in Fig. 11, weathering tongues 34 being right angularly formed on the upper face of the block and extended down the side face adjacent the said engaging slot, and weathering grooves 35 being similarly formed in the under face of the block and down one end adjacent the engaging slot at the end. Underlapping

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and overlapping corner blocks have the engaging slots formed in the block at the ends opposite to that shown in Fig. 11.

As the engagement of corner blocks is bi-directional, upper and lower spigoted blocks have their upper spigots tapered to a smaller cross section at the top than at the base as indicated at 36.

All of the blocks may be formed with a cored hole such as 23 and when placed in position may be filled with any suitable substance.

The blocks may have any desired ornamentation such as chamfers 37 as illustrated, and may be formed of any size according to the construction in which they are to be employed. For housing purposes a suitable size suggested is 12" x 6" x 6".

For strength purposes the join of the spigots and the block is preferably radiused or chamfered, the upper and lower edges of the engaging slots being similarly relieved to accommodate same.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:-

1. Building blocks of the type herein described wherein locking of said blocks is effected by spigots and slots, disposed in a vertical plane, each spigot engaging two complementary slots formed in opposite disposition in opposed vertical faces of two adjacent blocks, to prevent either horizontal or vertical disengagement of the blocks.
2. A building-block having a spigot extending obliquely from one face thereof and an engaging slot, of similar formation to portion of said spigot, formed in each end of the block and disposed in parallel relationship to said spigot, said engaging slots being adapted to receive portion of the spigot of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.

3. A building block having a spigot extending obliquely from one face thereof, an engaging slot, of similar formation to portion of said spigot, formed in each end of the block and disposed in parallel relationship to said spigot, and a cored hole in said block, said engaging slots being adapted to receive portion of the spigot of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.
4. A building block having a spigot extending obliquely from one face thereof, an engaging slot, of similar formation to portion of said spigot, formed in each end of the block and disposed in parallel relationship to said spigot, and weathering means provided in the engaging faces of the block, said engaging slots being adapted to receive portion of the spigot of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.
5. A building block having a spigot extending obliquely from one face thereof, an engaging slot, of similar formation to portion of said spigot, formed in each end of the block and disposed in parallel relationship to said spigot, a cored hole in said block, and weathering means provided in the engaging faces of the block, said engaging slots being adapted to receive portion of the spigot of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.
6. A building block having a spigot extending obliquely from the upper face and from the lower face thereof and an engaging slot, of similar formation to portion of said spigots, formed in each end of the block and disposed in parallel relationship to said spigots, said engaging slots being adapted to receive portion of the spigots of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.



7. A building block having a spigot extending obliquely from the upper face and from the lower face thereof, an engaging slot, of similar formation to portion of said spigots, formed in each end of the block and disposed in parallel relationship to said spigots, and a cored hole in said block, said engaging slots being adapted to receive portion of the spigots of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.
8. A building block having a spigot extending obliquely from the upper face and from the lower face thereof, an engaging slot, of similar formation to portion of said spigots, formed in each end of the block and disposed in parallel relationship to said spigot, and weathering means provided in the engaging faces of the block, said engaging slots being adapted to receive portion of the spigots of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.
9. A building block having a spigot extending obliquely from the upper face and from the lower face thereof, an engaging slot, of similar formation to portion of said spigots, formed in each end of the block and disposed in parallel relationship to said spigots, a cored hole in said block, and weathering means provided in the engaging faces of the block, said engaging slots being adapted to receive portion of the spigots of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.
10. A building block according to any one of Claims 2 to 9 inclusive wherein a third engaging slot is formed in a side face of the block.
11. A building block according to any one of Claims 2 to 9 inclusive wherein portion of a third engaging slot is formed in

the block at the corner of a side and an end face thereof.

12. A building block having a spigot extending obliquely from one face thereof, an engaging slot of similar formation to portion of said spigot formed in one end of the block in parallel relationship to said spigot, an engaging slot of similar formation to portion of said spigot formed in a side face of the block, said engaging slots being adapted to receive portion of the spigot of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.

13. A building block having a spigot extending obliquely from one face thereof, an engaging slot of similar formation to portion of said spigot formed in one end of the block in parallel relationship to said spigot, an engaging slot of similar formation to portion of said spigot formed in a side face of the block, and a cored hole in said block, said engaging slots being adapted to receive portion of the spigot of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.

14. A building block having a spigot extending obliquely from one face thereof, an engaging slot of similar formation to portion of said spigot formed in one end of the block in parallel relationship to said spigot, an engaging slot of similar formation to portion of said spigot formed in a side face of the block, and weathering means provided in the engaging faces of the block, said engaging slots being adapted to receive portion of the spigot of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.

15. A building block having a spigot extending obliquely from one face thereof, an engaging slot of similar formation to portion of said spigot formed in one end of the block in

parallel relationship to said spigot, an engaging slot of similar formation to portion of said spigot formed in a side face of the block, a bored hole in said block, and weathering means provided in the engaging faces of the block, said engaging slots being adapted to receive portion of the spigot of a similar adjacent block and to prevent disengagement of the said blocks in a direction parallel to either the end or the upper and lower faces.

16. A building block according to Claim 12, 13, 14 or 15 wherein a second spigot is provided on the face of the block opposite the firstmentioned spigot.

17. A building block according to Claim 4, 5, 8, 9, 10, 11, 14, 15 or 16 wherein the weathering means comprise tongues and grooves formed in the engaging faces of the block, drain depressions in the upper face of the block, and drainage ducts leading from the upper face to the lower face of the block.

18. Building blocks substantially as herein described with reference to the accompanying drawings.

DATED THIS 12th DAY OF November 1945

A. J. PARK & SON

PER: *B. J. Dewant*

AGENTS FOR THE APPLICANT

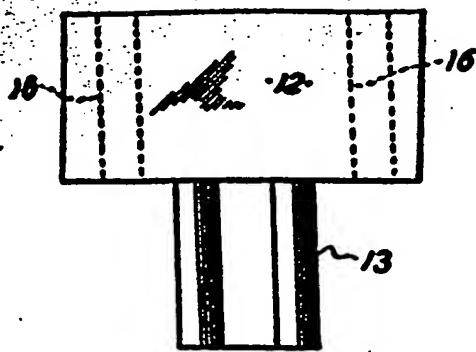


FIG. 1.

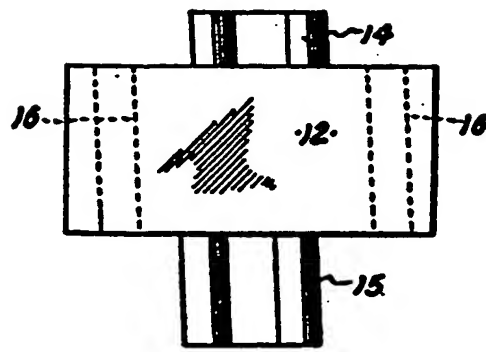


FIG. 2.

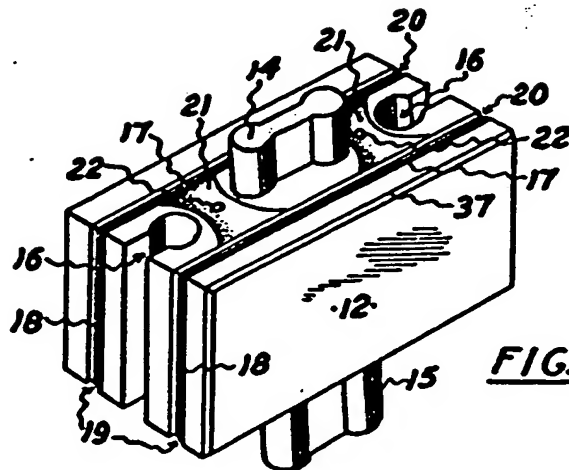
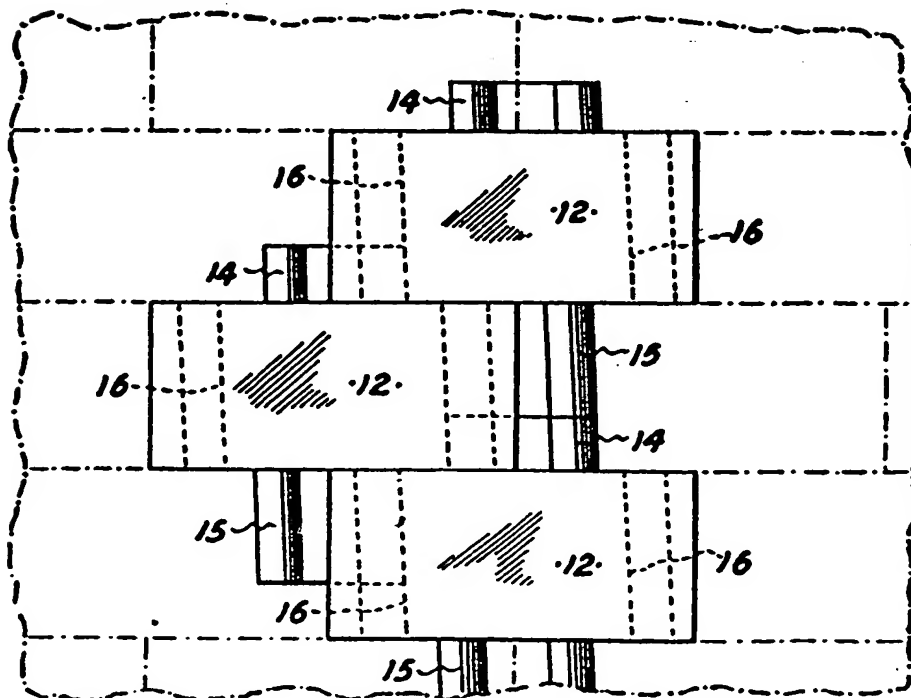
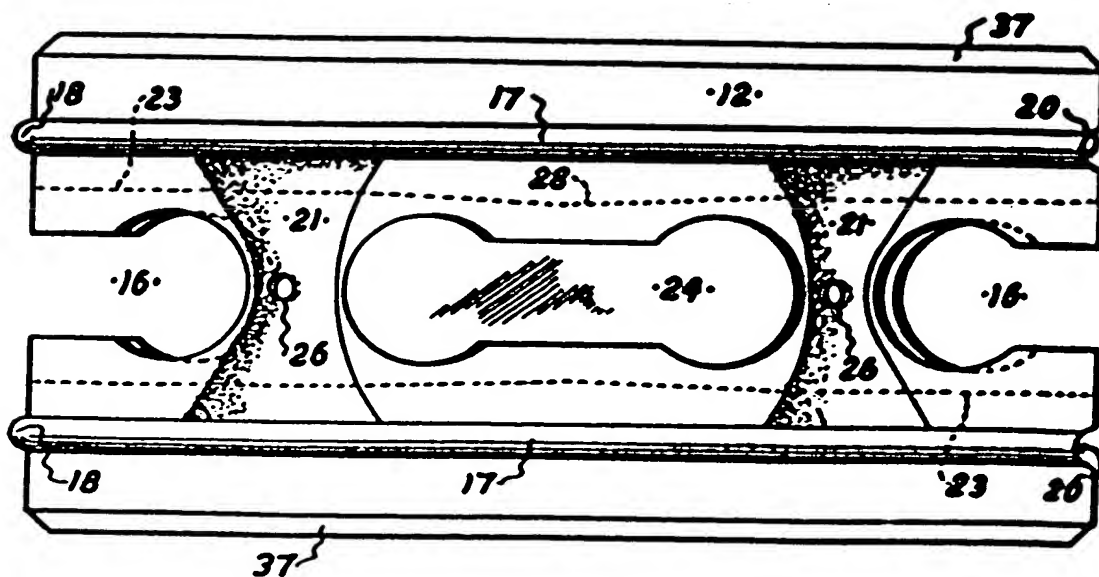
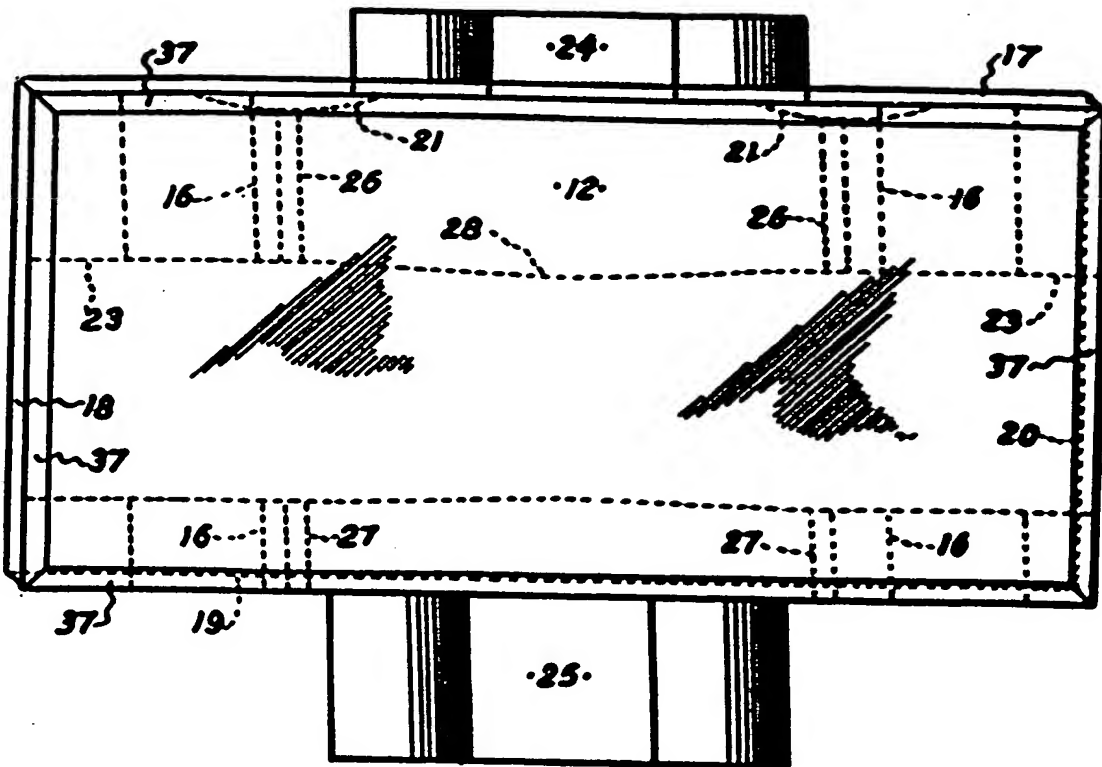


FIG. 3.

FIG. 4.



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 NEW YORK



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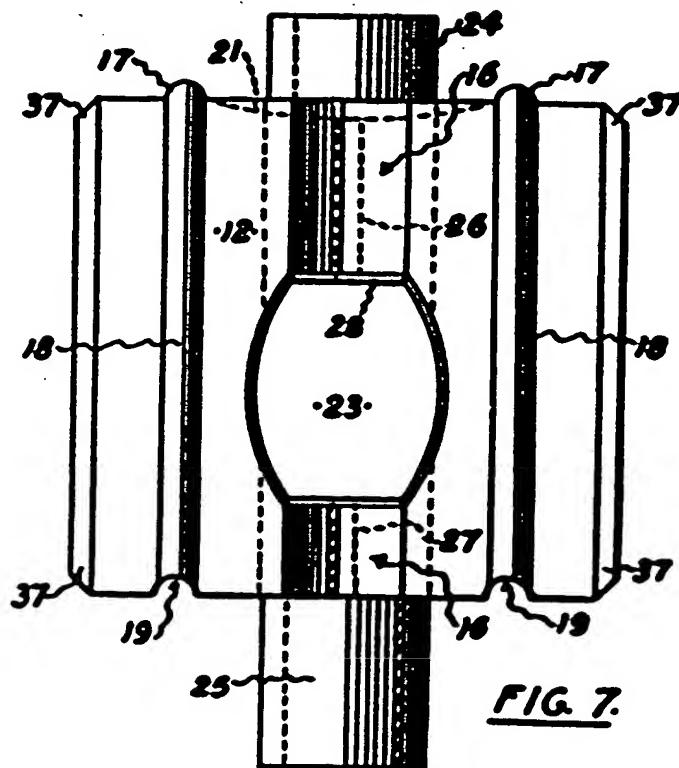


FIG. 7.

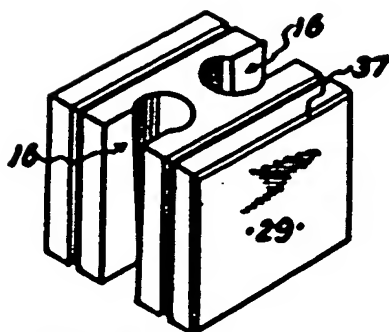


FIG. 8.



FIG. 9.

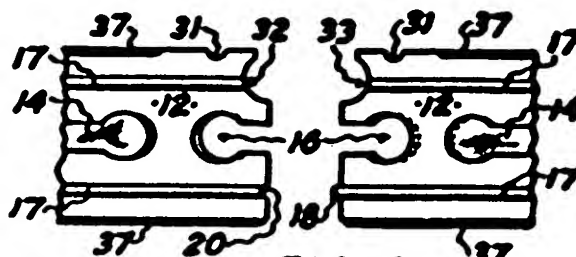


FIG. 10.

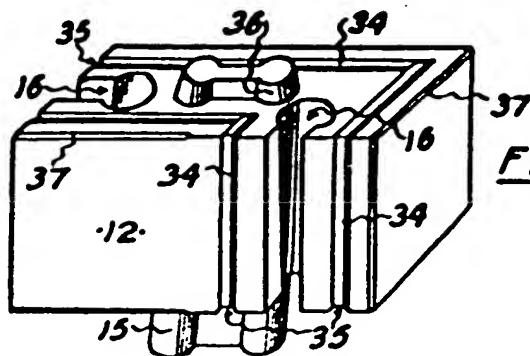


FIG. 11.

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